RAW SEQUENCE LISTING   DATE: 07/31/2003
PATENT APPLICATION: US/09/747,007A   TIME: 10:29:49

Input Set : A:\seqfinal2.txt
Output Set: N:\CRF4\07312003\I747007A.raw

```
 3 <110> APPLICANT: Ouellet, Therese
 4        Miki, Brian M.
 5        Foster, Elizabeth
 6        Martin-Heller, Teresa
 7        Tian, Lining
 8        Brown, Daniel C.
 9        Zhang, Peijun
10        Hattori, Jiro
11        Malik, Kamal
12        Wu, Keqiang
13        Theilmann, David Allan
14        Tropiano, Raymond
16 <120> TITLE OF INVENTION: Translational Regulatory Element
18 <130> FILE REFERENCE: 08-885707US1
20 <140> CURRENT APPLICATION NUMBER: 09/747,007A
21 <141> CURRENT FILING DATE: 2000-12-21
23 <150> PRIOR APPLICATION NUMBER: US 60/172,813
24 <151> PRIOR FILING DATE: 1999-12-21
26 <160> NUMBER OF SEQ ID NOS: 33
28 <170> SOFTWARE: PatentIn version 3.1
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31 <211> LENGTH: 2224
32 <212> TYPE: DNA
33 <213> ORGANISM: Nicotiana tabacum
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38 agagatattg gcttttcaac aactagtaca taaatatgcg actttgaccg tgtatcccca     120
40 gtcaaaaggg aacttcaccc tcctagttct ttatttccaa catacatggg gagtaatgct     180
42 aaatttacat agaagaataa taaaatgaac tgtaactaat gatgtactgt tccaaagaga     240
44 tgaggacgtc aacatattta ttccttcagc ccttttcaga ataataccat aagtagaaga     300
46 aatggcacat aaaatgaagt cctcggcaag tcaaatgtaa atctgaaccc acccagctaa     360
48 cccagtgaac tcaactttcc tggatagatc agcactcctt catgacattg catgccttct     420
50 ctttaaagag ccgcttgatc tctgaaaacc aaatgaatct ccacagagag atttcgagct     480
52 ccatgagacg ccttttggtt cttgatttac taaacctata aaaatgaaag gaagtaggac     540
54 aactgcattt tgccgcttaa gatgcttcgg cgctttgtga attttaagtc atgagaaagt     600
56 acaatgttgg aatctcacat tagaacaatg tatttgtaat aacctaggaa agcaaagcta     660
58 gaagggaggt gcagctaaat cttcttctac cttgttatcc ttgcatttct tgaggaggag     720
60 gaactgtcct cgcaggtgca aaatctgcag tcgcccaaaa ggatattcag aagtatatta     780
62 caacatgttt aatggttaac caagtgaaag atcaaaatag tcattagaac aaaatgcgtg     840
64 ctcagagcgt atctactagt tcatcaaccc agtacacatc tctgaatttc atctcttgcc     900
66 gttgaactaa gtcaattggt caaagacgca taacatgaga gacactcata aaacggctga     960
68 ataacatgca gaagacgtca tgcgccttag gtctcattat gcatgagatt attagttata    1020
70 tgctccttca gtttgactag aaatgaaaaa tcagttaagc ctgtaacgaa atgataacct    1080
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 72 gcttcaagaa gattagacta ttttttcataa aatatgcagt gccgtgaaat agatacttaa   1140
 74 tcttaggcag gaaaaatctt ctattgggcc ataataagaa ctaccaatta gaaaggaggt   1200
 76 agaaagctcc gatactgtta tgaaggccat tctaagtgct gatgtgaatt tcccaataca   1260
 78 aaatgacaac aaaaacaaaa gcctcaatcc taagctagtt ggggtcgcta tataaatcct   1320
 80 cgacatccat ttaactccac ttggactcct ttctttccaa tattttaata ttgttagatt   1380
 82 aatcataaaa ttgcttagct ttctactggc acttaaccta ctgcaaccct cctcttctgg   1440
 84 gattccaaca caaacaacta agaggaattt gaaaaaaaga aagcaaatgt gagaagagac   1500
 86 aaaatgtaca atgatacctc ttcttgcagc aaaggaggca ggttctctgc tgagacaagg   1560
 88 ttctctattt cctgcaagac cttcgtatct tttattcgag accatgtatg tggaggtaac   1620
 90 gccagcaata gtgctgtcag cacatcgttg cttgcagggg atcttctgca agcatctcta   1680
 92 tttcctgaag gtctaacctc gaagatttaa gatttaatta cgtttataat tacaaaattg   1740
 94 attctagtat ctttaattta atgcttatac attattaatt aatttagtac tttcaatttg   1800
 96 ttttcagaaa ttattttact attttttata aaataaaagg gagaaaatgg ctatttaaat   1860
 98 actagcctat tttatttcaa ttttagctta aaatcagccc caattagccc caatttcaaa   1920
100 ttcaaatggt ccagcccaat tcctaaataa cccacccta acccgcccgg tttccccttt    1980
102 tgatccaggc cgttgatcat tttgatcaac gcccagaatt tcccctttt cttttttaat    2040
104 tcccaaacac ccctaactct atcccatttc tcaccaaccg ccacatatga atcctcttat    2100
106 ctctcaaact ctctcgaacc ttcccctaac cctagcagcc tctcatcatc ctcacctcaa    2160
108 aacccaccgg aatacatggc ttctcaagcc gtggaaacct tatactcacc tccctttgct    2220
110 ctta                                                                 2224
113 <210> SEQ ID NO: 2
114 <211> LENGTH: 188
115 <212> TYPE: DNA
116 <213> ORGANISM: NdeI-SmaIfragment of tCUP (T1275)
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119 catatgaatc ctcttatctc tcaaactctc tcgaaccttc ccctaacccct agcagcctct    60
121 catcatcctc acctcaaaac ccaccggaat acatggcttc tcaagccgtg gaaaccttat   120
123 actcacctcc ctttgctctt acagtactcg gccgtcgacc gcggtacccg ggtggtcagt   180
125 cccttatg                                                             188
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129 <211> LENGTH: 129
130 <212> TYPE: DNA
131 <213> ORGANISM: delta N with Kozak sequence
133 <400> SEQUENCE: 3
134 agatctatcc tcttatctct caaactctct cgaaccttcc cctaacccta gcagcctctc    60
136 atcatcctca cctcaaaacc caccggccac catggcctct agaggaccccc gggtggtcag   120
138 tcccttatg                                                            129
141 <210> SEQ ID NO: 4
142 <211> LENGTH: 119
143 <212> TYPE: DNA
144 <213> ORGANISM: deltaN without Kozak sequence
146 <400> SEQUENCE: 4
147 agatctatcc tcttatctct caaactctct cgaaccttcc cctaacccta gcagcctctc    60
149 atcatcctca cctcaaaacc caccggtcta gaggatcccc gggtggtcag tcccttatg    119
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153 <211> LENGTH: 23
154 <212> TYPE: DNA
155 <213> ORGANISM: Linker 1
157 <400> SEQUENCE: 5
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RAW SEQUENCE LISTING   DATE: 07/31/2003
PATENT APPLICATION: US/09/747,007A   TIME: 10:29:49

Input Set : A:\seqfinal2.txt
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158 ggatctatcc tcttatctct caa                                            23
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171 <211> LENGTH: 18
172 <212> TYPE: DNA
173 <213> ORGANISM: Linker 3
175 <400> SEQUENCE: 7
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180 <211> LENGTH: 24
181 <212> TYPE: DNA
182 <213> ORGANISM: Linker 4
184 <400> SEQUENCE: 8
185 atcatcctca cctcaaaacc cacc                                           24
188 <210> SEQ ID NO: 9
189 <211> LENGTH: 24
190 <212> TYPE: DNA
191 <213> ORGANISM: Linker 5
193 <400> SEQUENCE: 9
194 agcctctcat catcctcacc tcaa                                           24
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198 <211> LENGTH: 602
199 <212> TYPE: DNA
200 <213> ORGANISM: Nicotiana tabacum, rent 1
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203 <221> NAME/KEY: misc_feature
204 <222> LOCATION: (1)..(602)
205 <223> OTHER INFORMATION: where n is a or t or g or c
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213 atttaatatt tttacattat taattaattt agaagtttta attttttttc agaaatcatt    180
215 ttactatttt tataaaaaca aaagggaaaa gtggttattt aaatactagc cctatttcat    240
217 ttcaattata gcctaaaatc agccccaatt aaccccaatt ccaaattcaa acgggccagc    300
219 ccaattccta aaatgacccg ctcctaaccc gcttttccaa cccgcccggt ttcccctttt    360
221 gatccaggct gttgatcatt ttgatcaacg gccagaattt cccctttcct ttttaattcc    420
223 caaacacccc ccaaccttat cccgtttctc accaaccgcc agatctatcc tcttatctct    480
225 caaactctct cgaaccttcc cctaacccta gcagcctctc atcatcctca cctcaaaacc    540
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W--> 227 caccggccac catggcctct agaggatccc cgggtggtca gtcccttatg ttacgtcctn   600
```
229 aa                                                                  602
232 <210> SEQ ID NO: 11
233 <211> LENGTH: 610
234 <212> TYPE: DNA
235 <213> ORGANISM: Nicotiana tabacum,RENT 2
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RAW SEQUENCE LISTING   DATE: 07/31/2003
PATENT APPLICATION: US/09/747,007A   TIME: 10:29:50

Input Set : **A:\seqfinal2.txt**
Output Set: **N:\CRF4\07312003\I747007A.raw**

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242 agtattttta atttaatatt tatacattat taattaactt agtactttca attcgttttc   180
244 aaaaattatt ttactatttt ttgtaaaata aaagggagaa aatggctatt taaatactag   240
246 ccctatttta tttcaatttt agcctaaaat cagcccccaa ttaaccccaa tttcaaattc   300
248 aaatgggaca gcccaattcc taaaataacc cgcccctaac cctcttatcc aacccacccg   360
250 atttcccctt ttgatccagg ttgttgatca ttttgatcaa cgaccagaat ttcccccttc   420
252 ctgtttttaa ttcccaaaca ccccccaacc ctatcccatt tctcaccaac cgccagatct   480
254 atcctcttat ctctcaaact ctctcgaacc ttcccctaac cctagcagcc tctcatcatc   540
256 ctcacctcaa aacccaccgg ccaccatggc ctctagagga tccccgggtg gtcagtccct   600
258 tatgtgcgtc                                                          610
261 <210> SEQ ID NO: 12
262 <211> LENGTH: 507
263 <212> TYPE: DNA
264 <213> ORGANISM: Nicotiana tabacum,RENT 3
266 <220> FEATURE:
267 <221> NAME/KEY: misc_feature
268 <222> LOCATION: (1)..(507)
269 <223> OTHER INFORMATION: where n is a or t or g or c
272 <400> SEQUENCE: 12
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275 ttgttttcag aaattatttt actatttttt ataaaataaa agggagaaaa tggctattta   120
277 aataccagcc ctattttatt tcaatttttaa cctaaaatca gccccagtta gccccaaacg   180
279 gcccatccca attcctaaaa taactcgccc ctaacccgct tatccaaccc gcccggttcc   240
281 ccttttgatc caggccgttg atcattttga tcaacgacca gaatttcccc tttccttttt   300
283 taattcccaa acaccgccaa acctatccca tttctcacca accgccagat ctatcctctt   360
285 atctctcaaa ctctctcgaa ccttcccta accctagcag cctctcatca tcctcacctc   420
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289 gncctaaatg nccgncctgn nnnnnnc                                        507
292 <210> SEQ ID NO: 13
293 <211> LENGTH: 599
294 <212> TYPE: DNA
295 <213> ORGANISM: Nicotiana tabacum,RENT 5
297 <220> FEATURE:
298 <221> NAME/KEY: misc_feature
299 <222> LOCATION: (1)..(599)
300 <223> OTHER INFORMATION: where n is a or t or g or c
303 <400> SEQUENCE: 13
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W--> 306 ctctaatang actcactata gggaaagctt ataattacaa atttgattct agtattttta   120
308 atttaatatt tatacattat taattaattt agtactttca atttgttttc agaaatcatt   180
310 ttactatggt ttataaaata aaagggagaa aatggctatt taaatactag ccctatttta   240
312 tttcaatttt agcctaaaat cagccccaat taacccctat ttcaaattca aacgggctag   300
314 cccagttcct aaaataaccc tcccctaacc cgcttatcca accgccctg tttcccctttt   360
316 tgatccaggc cgttgatcat tttgatcaac gaccaaaatt tcccctttcc ttttttaatt   420
318 cccaaacacc cccaaccta tcccatttct caccaaccgc cagatctatc ctcttatctc   480
320 tcaaactctc tcgaaccttc ccctaaccct agcagcctct catcatcctc acctcaaaac   540
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326 <211> LENGTH: 616
327 <212> TYPE: DNA
328 <213> ORGANISM: Nicotiana tabacum,RENT 7
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331 <221> NAME/KEY: misc_feature
332 <222> LOCATION: (1)..(616)
333 <223> OTHER INFORMATION: where n is a or t or g or c
336 <400> SEQUENCE: 14
337 tttatgcttc cggctcgtat gttgtgtgga attgtgagcg gataacaatt tcacacagga        60
339 aacagctatg accatgatta cgccaagctc taatacgact cactataggg aaagcttata       120
341 attacaaaat tgattatagt acttttaatt taatatttat acattattaa ttaatttagc       180
343 actttcaatt tattttcaga aaccatttta ctatttttta taaaataaaa gggacaaaat       240
345 ggctatttaa ataccaacac tattttattt caattttagc ctaaaatcaa acccaattaa       300
347 ccccaaacgg gccagcccaa ttcctaaaac aacccgcccc taacccgctt atccaacccg       360
349 cccgatttcc tcttttgatc caggccgttg atcattttga tcaacggcca gaatttcccc       420
351 tttccttttt tcattcccaa acacccccaa acctatccca tttctcacca accgccagat       480
353 ctatcctctt atctctcaaa ctctctcgaa ccttcccta accctagcag cctctcatca       540
355 tcctcacctc aaaacccacc ggccaccatg gcctctagag gatccccggg tggtcagtcc       600
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363 <213> ORGANISM: SCAN 1
365 <400> SEQUENCE: 15
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369 <210> SEQ ID NO: 16
370 <211> LENGTH: 24
371 <212> TYPE: DNA
372 <213> ORGANISM: SCAN 2
374 <400> SEQUENCE: 16
375 atctgagaaa ctctctcgaa cctt                                               24
378 <210> SEQ ID NO: 17
379 <211> LENGTH: 24
380 <212> TYPE: DNA
381 <213> ORGANISM: SCAN 3
383 <400> SEQUENCE: 17
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388 <211> LENGTH: 24
389 <212> TYPE: DNA
390 <213> ORGANISM: SCAN 4
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397 <211> LENGTH: 24
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399 <213> ORGANISM: SCAN 5
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RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 07/31/2003
PATENT APPLICATION: US/09/747,007A   TIME: 10:29:51

Input Set : A:\seqfinal2.txt
Output Set: N:\CRF4\07312003\I747007A.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:10; N Pos. 600
Seq#:12; N Pos. 478,482,491,495,500,501,502,503,504,505,506
Seq#:13; N Pos. 69
Seq#:14; N Pos. 616